

**AMENDMENTS TO THE CLAIMS:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1-17 (canceled).

18. (new): A device for detecting objects placed on a human subject, said device comprising:

a source for generating a microwave signal comprising means for generating the signal in a known state of polarization, said signal illuminating said area of the body at a non-zero angle of incidence;

a horn for sending said signal, said horn illuminating an area of the body of said human subject;

a horn for receiving the signal reflected by said area;

a structure bearing at least the sending horn and the receiving horn;

means of analyzing said reflected signal comprising first means for determining the energy and polarimetric characteristics of the reflected signal, second means for determining from said characteristics the presence of objects placed on said human subject and third means for warning of said presence.

19. (new): The detection device as claimed in claim 18, comprising means for sending or receiving the signal on one and the same so-called sending/receiving horn.

20. (new): The detection device as claimed in claim 18, comprising a synchronous detection linking the source for generating the microwave signal and the analysis means.

21. (new): The detection device as claimed in claim 18, wherein the source comprises means for generating the signal at a variable frequency, said frequency being between a few gigahertz and 70 gigahertz.

22. (new): The detection device as claimed in claim 18, wherein the source or the sending horn comprises means for sending a linearly polarized signal, the direction of polarization of said signal being oriented at approximately  $45^\circ$  from the average plane of incidence of the signal on the illuminated area of the body.

23. (new): The detection device as claimed in claim 18, wherein the source or the sending horn comprises means for sending a circularly or elliptically polarized signal.

24. (new): The detection device as claimed in claim 18, wherein the source or the sending horn comprises means for sending a polarized signal having different combinations of parallel and perpendicular polarizations varying over time.

25. (new): The detection device as claimed in claim 24, wherein the first means of measuring the polarimetric characteristics of the reflected signal are of ellipsometric type, namely that they allow the main orientation and ellipticity of the received polarization to be measured.

26. (new): The detection device as claimed in claim 25, wherein the first ellipsometric measurement means comprise a microwave polarizer disposed in front of an intensity detector and means of rotating said polarizer.

27. (new): The detection device as claimed in claim 26, wherein the rotation means comprise either a direct current motor or a stepper motor.

28. (new): The detection device as claimed in claim 25, wherein the receiving horn is of the orthomode type and that the first measurement means comprise two detectors placed at the output of said receiving horn.

29. (new): The detection device as claimed in claim 24, wherein the first means of measuring the polarimetric characteristics of the reflected signal are a receiving horn for receiving a polarization oriented at  $45^\circ$  from the reflection plane of the illuminated area of the body.

30. (new): The detection device as claimed in claim 18, wherein the mechanical structure is a security gate of a size sufficient to allow the human subject to pass through.

31. (new): The detection device as claimed in claim 18, wherein the mechanical structure is portable and comprises a mechanical part on which are disposed the sending and receiving horns and a handle.

32. (new): The detection device as claimed in claim 31, wherein the horns are of the sending/receiving type.

33. (new): The detection device as claimed in claim 32, wherein the structure comprises four horns disposed at the peaks of a parallelogram.

33. (new): The detection device as claimed in claim 18, comprising means of measuring the temperature of the human body.